

IN THE CLAIMS:

Claims 1, 2, 4, and 5 have been amended, and new claims 6-9 have been added as follows:

1. (Currently Amended) An audio apparatus for use in a negative impedance drive of a loudspeaker having an internal impedance to perform a desired amplitude-frequency characteristic, comprising:

an amplifier device that drives the loudspeaker with a driving voltage;

a providing section, that provides a control voltage, ~~having as its sole input~~ having as an input a voltage level of the driving voltage indicative of a driving current ~~[[of]]~~ to the loudspeaker; and

a feedback device having a variable feedback gain that performs a positive feedback of a signal corresponding to the driving voltage of the loudspeaker to ~~[[an]]~~ a positive input terminal of the amplifier device thereby causing the amplifier device to generate a negative impedance effective to negate the internal impedance of the loudspeaker, the feedback device comprising a voltage-controlled amplifier having the variable feedback gain and receiving the signal corresponding to the driving voltage, the voltage-controlled amplifier being responsive to the control voltage from the providing section and the signal corresponding to the driving voltage for generating an output signal and positively feeding back the output signal to the positive input terminal of the amplifier device to thereby perform the positive feedback, wherein

~~the voltage-controlled amplifier providing section~~ provides the control voltage that decreases the variable feedback gain as ~~[[a]]~~ the voltage level of the control voltage indicative of the driving current to the loudspeaker increases, thereby adjusting the

amplitude-frequency characteristic of the amplifier device, only if a level of a loudspeaker output exceeds a predetermined output level ~~the level of the control voltage exceeds a critical level~~, and otherwise keeps the variable feedback gain constant as long as the level of the loudspeaker output control voltage remains under the predetermined output level ~~the critical level~~.

2. (Currently Amended) The audio apparatus according to claim 1, wherein the providing section comprises a detector that detects the voltage level signal ~~corresponding to the driving voltage~~ in terms of the driving current across a resistor a load voltage of the loudspeaker, and a converter that converts the detected ~~[[load]]~~ voltage to the control voltage.

3. (Canceled)

4. (Currently Amended) An audio apparatus for use in a negative impedance drive of a loudspeaker having an internal impedance to perform a desired amplitude-frequency characteristic, comprising:

an amplifier device that drives the loudspeaker with a driving voltage;

a providing section, that provides a control voltage, having as an input a voltage level of the driving voltage indicative of a driving current ~~[[of]]~~ to the loudspeaker; and

a feedback device having a variable feedback gain that performs a positive feedback of a signal corresponding to the driving voltage of the loudspeaker to ~~[[an]]~~ a positive input terminal of the amplifier device thereby causing the amplifier device to generate a negative impedance effective to negate the internal impedance of the loudspeaker, the feedback device comprising a voltage-controlled amplifier having the variable feedback gain and receiving the signal corresponding to the driving voltage, the

voltage-controlled amplifier being responsive to the control voltage from the providing section and the signal corresponding to the driving voltage for generating an output signal and positively feeding back the output signal to the positive input terminal of the amplifier device to thereby perform the positive feedback, wherein

~~the voltage-controlled amplifier providing section provides the control voltage that~~ decreases the variable feedback gain as ~~[[a]]~~ the voltage level of the control voltage indicative of the driving current to the loudspeaker increases, thereby adjusting the amplitude-frequency characteristic of the amplifier device so as to suppress the amplitude-frequency characteristic of the amplifier device, thereby preventing an output of the amplifier device from clipping, only if a level of a loudspeaker output exceeds a predetermined output level ~~the level of the control voltage exceeds a critical level~~, and otherwise keeps the variable feedback gain constant as long as the level of the loudspeaker output control voltage remains under the predetermined output level ~~the critical level~~.

5. (Currently Amended) The audio apparatus according to claim 4, wherein the providing section comprises a detector that detects the voltage level signal ~~corresponding to the driving voltage~~ in terms of the driving current across a resistor a load voltage of the loudspeaker, and a converter that converts the detected ~~[[load]]~~ voltage to the control voltage.

6. (New) The audio apparatus according to claim 1, wherein when the level of the loudspeaker output exceeds the predetermined output level, the variable feedback gain linearly decreases.

7. (New) The audio apparatus according to claim 1, wherein when the level of the loudspeaker output exceeds the predetermined output level, the variable feedback gain decreases along a predetermined curve.

8. (New) The audio apparatus according to claim 4, wherein when the level of the loudspeaker output exceeds the predetermined output level, the variable feedback gain linearly decreases.

9. (New) The audio apparatus according to claim 4, wherein when the level of the loudspeaker output exceeds the predetermined output level, the variable feedback gain decreases along a predetermined curve.